MULTI-SENSING LEVEL MRAM STRUCTURE WITH DIFFERENT MAGNETO- RESISTANCE RATIOS

ABSTRACT

A new process and structure for a multi-sensing level magnetic random access memory (MRAM) cell having different magneto-resistance (MR) ratios includes an improved magnetic tunnel junction (MTJ) configuration. The MTJ configuration includes a first free layer proximate to a first tunneling barrier and a second free layer proximate to a second tunneling barrier and a pinned layer. The first free layer is sandwiched between the first and second tunneling layers. The first tunneling barrier has a MR ratio that differs from a MR ratio of the second tunneling barrier.